



6590 45  
4/29/02

RECEIVED  
TECH CENTER 1600/2900  
SEP 14 2001  
4/29/02

Docket No. ORT-1414

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : QIN et al.

Serial No. : 09/833,222

Art Unit: 1645

Filed : April 11, 2001

Examiner: 0300

For : CDNA Encoding the Human Alpha2 Delta4 Calcium Channel Subunit

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner For Patents, Washington, D.C. 20231 on

September 10, 2001

(Date of Deposit)

Myra H. McCormack  
(Name of applicant, assignee, or Registered Representative)

Myra McCormack  
(Signature)

September 10, 2001

(Date of Signature)

Commissioner for Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §§1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 C.F.R. §1.56(b).

Applicant(s) reserve(s) the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this

RECEIVED  
TECH CENTER 1600/2900  
DEC 06 2001

RECEIVED  
TECH CENTER 1600/2900  
APR 26 2002

information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist.

In accordance with **§1.97(b)**, since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified national application (other than a continued prosecution application under **§1.53(d)**), within three months of the date of entry into the national stage of the above identified application as set forth in **§1.491**, or before the mailing date of a first Office Action on the merits of the above-identified application, or before the mailing date of a first Office Action after the filing of a request for continued examination under **§1.114**, no additional fee is required.

In accordance with **§1.129(a)**, this Information Disclosure Statement is being filed in connection with  the first or  second After Final Submission, therefore:

Statement in Accordance with **§1.97(e)** (attached);  
or  
 Please charge Deposit Account No. 10-0750/ /  
the fee of \$180.00 as set forth in **§1.17(p)**.

In accordance with **§1.97(c)**, this Information Disclosure Statement is being filed after the period set forth in **§1.97(b)** above but before the mailing date of either a Final Action under **§1.113** or a Notice of Allowance under **§1.311**, or an action that otherwise closes prosecution and that it is accompanied by one of:

- Statement in Accordance with §1.97(e) (attached);  
or
- Please charge Deposit Account No. 10-0750/ /  
the fee of \$180.00 as set forth in §1.17(p).

In accordance with §1.97(d), this Information Disclosure Statement is being filed after the mailing date of either a Final Action under §1.113 or a Notice of Allowance under §1.311 but before the payment of the Issue Fee. Applicant(s) hereby petition(s) for consideration of this Information Disclosure Statement. Included are: Statement in Accordance with §1.97(e) as set forth below and the fee of \$180.00 as set forth in §1.17(p).

- Copies of each of the references listed on the attached Form PTO-1449 are enclosed herewith.
- Copies of references listed on the attached Form PTO-1449 are enclosed herewith EXCEPT THAT:
  - In view of the voluminous nature of references [list as appropriate], and the likelihood that these references are available to the Examiner, copies are not enclosed herewith.
  - If any of the foregoing publications are not available to the Examiner, Applicant will endeavor to supply copies at the Examiner's request.
- There are no listed references which are not in the English language.

endeavor to supply copies at the Examiner's request.

There are no listed references which are not in the English language.

The relevance of those listed references which are not in the English language is as follows:

Attached are copies of search report(s) from corresponding patent application(s), which are listed on the attached Submission Under MPEP 609 D.

Attached are the following non-published pending patent applications which may be deemed relevant, which are listed on the attached Submission Under MPEP 609 D.

Please charge any deficiency or credit any overpayment to Deposit Account No. 10-0750/ORT-1414/MHM. This form is submitted in triplicate.

Respectfully submitted,

  
Myra H. McCormack  
Reg. No. 36,602  
Attorney for Applicants

Johnson & Johnson  
One Johnson & Johnson Plaza  
New Brunswick, NJ 08933-7003  
(732) 524-6932  
DATED: September 10, 2001

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**Substitute for form 1449A/PTO**

## **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 3

<b>Application Number</b>	09/833,222	TER	1
<b>Filing Date</b>	April 11, 2001		4
<b>First Named Inventor</b>	QIN		
<b>Group Art Unit</b>		1600	
<b>Examiner Name</b>			2001
<b>Attorney Docket Number</b>	ORT-1414	2000	

## U.S. PATENT DOCUMENTS

TECH CENTER 1600/2500

APR 26 2002

DEC 06 2007  
TECH CENTER 1600/290

## FOREIGN PATENT DOCUMENTS

<b>Examiner Signature</b>		<b>Date Considered</b>	
-------------------------------	--	----------------------------	--

**\*EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached *Kinds of U.S. Patent Documents*. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20531.

DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

RECEIVED

SEP 14 2001

TECH CENTER 1600/28

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449A/PTO

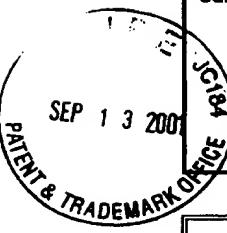
## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 3

Application Number	09/833,222
Filing Date	April 11, 2001
First Named Inventor	QIN
Group Art Unit	
Examiner Name	
Attorney Docket Number	ORT-1414

SEP 13 2001



## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner's Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITOL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
	2	BEAN et al., 1989. Classes of Calcium Channels in Vertebrate Cells. <i>Annu. Rev. Physiol.</i> 51:367-84
	3	BERTOLINO et al., 1992. The Central Role of Voltage-Activated and Receptor-Operated Calcium Channels in Neuronal Cells. <i>Annu. Rev. Pharmacol. Toxicol.</i> 32:399-421
	4	BIRNBAUMER et al., 1998. Structures and Functions of Calcium Channel $\beta$ Subunits. <i>Journal of Bioenergetics and Biomembranes.</i> Vol. 30(4): 357-375
	5	CASTELLANO et al., 1993. Cloning and Expression of a Neuronal Calcium Channel $\beta$ Subunits. <i>The Journal of Biological Chemistry.</i> Vol. 268(17) Issue of June 15, pp. 12359-12366
	6	CASTELLANO et al., 1993. Cloning and Expression of a Third Calcium Channel $\beta$ Subunits. <i>The Journal of Biological Chemistry.</i> Vol. 268(5) Issue of February 15, pp. 3450-3455
	7	CATTERALL. 1988. Structure and Function of Voltage-Sensitive Ion Channels. <i>Science</i> , 242:50-61
	8	D'ANDREA et al., 1998. Characterization of Protease-activated Receptor-2 Immunoreactivity in Normal Human Tissues. <i>The Journal of Histochemistry &amp; Cytochemistry.</i> 46(2):157-164
	9	ELLIS et al., 1988. Sequence and Expression of mRNAs Encoding the $\alpha_1$ and $\alpha_2$ Subunits of a DHP-Sensitive Calcium Channel. <i>Science.</i> 241:1661-1664
	10	ERTEL et al., 2000. Nomenclature of Voltage-Gated Calcium Channels. <i>Neuron.</i> 25:533-535
	11	FELEX et al., 1997. Dissection of Functional Domains of the Voltage-Dependent $Ca^{2+}$ Channel $\alpha_2\delta$ Subunit. <i>The Journal of Neuroscience.</i> 17(18):6884-6891
	12	GEE et al., 1996. The Novel Anticonvulsant Drug, Gabapentin (Neurontin), Binds to the $\alpha_2\delta$ Subunit of a Calcium Channel. <i>271(10),</i> Issue of March 8, pp. 5768-5776
	13	GILAD et al., 1995. Identification of the alternative spliced form of the $\alpha_2\delta$ subunit of voltage sensitive $Ca^{2+}$ channels expressed in PC12 cells. <i>Neuroscience Letters.</i> 193:157-160
	14	GURNETT et al., 1996. Transmembrane auxiliary Subunits of Voltage-dependent Ion Channels. <i>The Journal of Biological Chemistry.</i> 271(45), Issue of November 8, pp. 27975-27978
	15	GURNETT et al., 1996. Dual Function of the Voltage-Dependent $Ca^{2+}$ Channel $\alpha_2\delta$ Subunit in Current Stimulation and Subunit Interaction. <i>Neuron.</i> 16:431-440
	16	HESS, 1990. Calcium Channels in Vertebrate Cells. <i>Annu. Rev. Neurosci.</i> 13:357-56
	17	HOSEY et al., L-Type Calcium Channels in Cardiac and Skeletal Muscle Purification and Phosphorylation. <i>Annals New York Academy of Sciences.</i> pp. 27-38
	18	HUI et al., 1991. Molecular Cloning of Multiple Subtypes of a Novel Rat Brain Isoform of the $\alpha_1$ Subunit of the Voltage-Dependent Calcium Channel. <i>Neuron.</i> 7:35-44
	19	JAY et al., 1990. Primary Structure of the $\gamma$ Subunit of the DHP-Sensitive Calcium Channel from Skeletal Muscle. <i>Science.</i> 248:490-492
	20	KLUGBAUER et al., 1999. Molecular Diversity of the Calcium Channel $\alpha_2\delta$ Subunit. <i>The Journal of Neuroscience.</i> 19(2):684-691
	21	KOZAK, 1991. An analysis of Vertebrate mRNA Sequences: Intuitions of Translational Control. <i>The Journal of Cell Biology.</i> 115(4):887-903
	22	LACERAD et al., 1991. Normalization of current kinetics by interaction between the $\alpha_1$ and $\beta$ subunits of the skeletal muscle dihydropyridine-sensitive $Ca^{2+}$ channel. <i>Nature.</i> 352:527-530
	23	LEE et al., 1999. Cloning and Expression of a Novel Member of the Low Voltage-Activated T-Type Calcium Channel Family. <i>The Journal of Neuroscience.</i> 19(6)1912-1921
	24	LITTLETON et al., 2000. Ion Channels and Synaptic Organization: Analysis of the Drosophila Genome. <i>Neuron.</i> 26:35-43
	25	MIKAMI et al., 1989. Primary structure and functional expression of the cardiac dihydropyridine-sensitive calcium channel. <i>Nature.</i> 340:230-233
	26	MORI et al., 1991. Primary structure and functional expression from complementary DNA of a brain calcium channel. <i>Nature.</i> 350:398-402
	27	PEREZ-REYES et al., 1989. Induction of calcium currents by the expression of the $\alpha_1$ subunit of the dihydropyridine receptor from skeletal muscle. <i>Nature.</i> 340:233-236
	28	PEREZ-REYES et al., 1992. Cloning and Expression of a Cardiac/Brain $\beta$ Subunit of the L-type Calcium Channel. <i>The Journal of Biological Chemistry.</i> 267(3) Issue of January 25, pp. 1792-1797

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231.

DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<p>Substitute for form 1449A/PTO</p> <p><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b></p> <p>(use as many sheets as necessary)</p> <p>Sheet 3 of 3</p>		<p>Application Number 09/833,222</p> <p>Filing Date April 11, 2001</p> <p>First Named Inventor QIN</p> <p>Group Art Unit 1600/2900</p> <p>Examiner Name</p> <p>Attorney Docket Number ORT-1414</p>
---	--	--

<b>Examiner Signature</b>		<b>Date Considered</b>	
-------------------------------	--	----------------------------	--

**\*EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**1 Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation is attached.**

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231.

**DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**